Claims:

This listing is unamended from the claims submitted previously, but included for convenience.

Listing of Claims:

1. (Previously presented) A process for the production of polyunsaturated fatty acid and micronutrients rich zero-trans shortening by chemical interesterification to produce nutritionally and fictionally superior shortening without hydrogenation which process comprises blending of palm oil or palm stearin with rice bran oil, interesterification in presence of sodium methoxide catalyst, inactivation of the catalyst, washing with hot water, deoderization of the resultant product, and finally passing the interesterified product through margarine crystallizer under controlled conditions followed by packing and tempering.

2. (Previously presented) A process as claimed in claim 1, wherein the required homogeneity is attained by heating the palm stearin or palm oil to 60 - 80°C., then adding rice bran oil in the proper proportion to the melted palm stearin or palm oil, and charging the blend to the reactor vessel and heating to a temperature of 60-110°C. under vacuum (60-80 mmHg) with stirring.

(Previously presented) A process as claimed in claim 2, wherein 0.2-0.9% sodium methoxide catalyst is added with vigorous stirring for 5-60 minutes under the conditions of temperature and vacuum specified in claim 2.

4. (Previously presented) A process as claimed in claim 1, wherein sodium methoxide catalyst is inactivated by adding calculated amount of citric acid (0.2-1.2%) and aqueous layer is separated and again washed with hot water at 60-90° C. till neutral.

5. (Previously presented) A process as claimed in claim 1, wherein the resultant interesterified product is deodorized at a temperature of 140-180°C. and under a vacuum of 1-5 mbar for 1-4 h.

6. (Previously presented) A process as claimed in claim 1, wherein the resultant deodorized interesterified product at 50-80°C. is fed into the margarine crystallizer with a feed rate of 8-15 kg/hr.

7. (Previously presented) A process as claimed in claim 1, wherein the refrigerant temperature of the margarine crystallizer is adjusted to 5-25°C.

8. (Previously presented) A process as claimed in claim 1, wherein the interesterified fat fed into the margarine crystallizer is cooled to a temperature of 20-35°C.

9. (Previously presented) A process as claimed in claim 1, wherein the back pressure in the scraped surface heat exchanger (mutator) is adjusted to 5-10 bar.

10. (Previously presented) A process as claimed in claim 1, wherein the interesterified fat is crystallized in the mutator at a mutator speed of 150-250 rpm.

11. (Previously presented) A process as claimed in claim 1, wherein the product coming out of the mutator is subjected to beating in the pinworker at a speed of 50-150 rpm.

12. (Previously presented) A process as claimed in claim 1, wherein the product collected from the margarine crystallizer under specified temperature of 20-35°C and tubbed.

13. (Previously presented) A process as claimed in claim 1, wherein the filled product is tempered at 25-35°C for 3-10 days to get a plastic shortening with a requisite granular structure.

14. (Previously presented) A process as claimed in claim 1, wherein tocols enriched (900-1000 ppm) zero- trans shortening is obtained.

15. (Previously presented) A process as claimed in claim 1, wherein phytosterols enriched (0.5.-1%) zero-trans shortening is obtained.

16. (Previously presented) A process as claimed in claim 1, wherein oryzanol enriched (0.5-0.8%) zero-trans shortening is obtained.

17. (Previously presented) A process as claimed in claim 1, wherein the interesterified zero-trans shortening fall under the category of all-purpose shortenings with good plasticity and maximum

[beta]' polymorphic form (72%).

18. (Previously presented) A process as claimed in claim 1, wherein the interesterified zero-trans all-purpose shortening has good oxidative stability.

19. (Previously presented) A process as claimed claim 1, wherein the polyunsaturated fatty acid and micronutrients rich zero- trans all-purpose shortening meets the specificational requirements such as slip melting point, FFA, moisture, unsaponifiable matter and iodine value prescribed for shortening.

20. (Previously presented) A process as claimed in claim 1, for the production of zero- trans polyunsaturated fatty acid and micronutrients rich all-purpose shortenings with characteristics as in Table 1, 2, 3 and 4 by interesterification.